RELEVANCE *today and tomorrow* in Medical Education

A FORUM WITH A PURPOSE

Students of today question the relevance of much of their formal education. In medical schools the concern is particularly with the relevance of the educational experience to the professional commitment in modern society. To engender discussion of the subject, CALIFORNIA MEDICINE *in its January issue printed eight essays by authors known to have keen interest in the subject.*

Readers in California and elsewhere are invited to take part in a continuation of the forum in succeeding issues. The following are contributions selected from those received to date. Others will be published in the months ahead. At an appropriate time the material will be collated and, if feasible, the distillate will be prepared in the form of a statement.

If you have thoughts on the subject, just address them to the editors of CALIFORNIA MEDICINE, *693 Sutter Street, San Francisco, California, 94102. Keep your essays short, please.*

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THE THOUGHTS expressed in the forum are many and varied. It seems to me that two of the most significant came from John Millis and Paul Sanazaro. Dr. Millis in his statement "The weakness of medical education is not so much irrelevance but rather omission and incompleteness" and the data that he used to back this up seemed to be most appropos.

Dr. Sanazaro's statement that "Relevance, like beauty, is often in the beholder's eye" is expanded upon at some length by W. D. Maxwell in the *Bulletin* of the American Association of University Professors, "Some Dimensions of Relevance," Vol. 55, p. 337-341, September 1969. In this article, Dr. Maxwell had posed to his students the question regarding what constitutes a relevant course and found that there was no simple answer to this question. He came to the rather penetrating conclusion: "There is no objective relevance—that the relevance of a topic, course, curriculum, or the entire educational experience (in their view) can only be judged by the individual in terms of *his* view of society, *his* goals, *his* aspirations, and *his* expectations." It is obvious that if one accepts this—and I feel that one must—then the matter of relevance must be a sort of composite point of view made up from many sources.

In this context, the matter of relevance in continuing education has a great deal to do with what one might call coordination of continuing education. Thus, the relevance of our continuing education exercises are going to depend upon the coordination that is achieved between several types of needs and facilities, and these may be listed briefly as coordination between the purveyors of continuing education as to time and place; coordination of such courses with physicians' needs as perceived by them and as discovered by techniques such as self-assessment examinations and medical audit courses; coordination between courses, physicians' needs and patient needs, the latter to be determined on the basis of interview techniques, morbidity, mortality, statistics, community survey and the like. All of this must, in turn, be coordinated with the environment with which a physician is going to work. It will do little good to determine needs and to coordinate courses if those that are given do not relate to the type and place in which practice will be carried forth.

Finally, continuing education for the physician must be coordinated and, therefore, be made relevant to the educational background that he himself has had in earlier years as well as other workers in the health field with whom he must work and cooperate in order to achieve success.

If continuing education is to be relevant, it must have certain characteristics that will come through regardless of the system, situation, or place in which the physician or other health professional works. The end result of such education should be a strengthening of the motivation for

that person to give of himself one step more than might be required. The motivation to "walk the second mile" or as they say in athletics, to give a "great second effort" is badly needed. Without this, no system will work. With it, almost any system will work. There has been little emphasis placed upon those factors that stimulate the individual physician to care about his individual patient. Most physicians care and care deeply. Is this purely an emotional response? Is this a product of the fee for service system? Is it related to some inherent attitude toward other people? It is a fertile field for behavioral research and it is one that at this time is sadly neglected.

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MEDICINE IS PERHAPS unique among human endeavors in that its practitioners, by seeking to eradicate disease, are laboring so that their profession ultimately will become obsolete. Mr. Stalcup* recognizes the improbability of achieving this total obsolescence of physicians even in the ecologically balanced society of the future when he suggests that there still will be a need for "disease specialists, to manage those who are essentially treatment failures of the health specialists." It appears undesirable to alter medical education so drastically that the physician would become a "physician to the environment," and highly unlikely that this goal could be reached. Education of a physician to the environment implies the development of a super-generalist competent as city planner, economist, social worker, public health nurse, social psychologist, etc. Considering the rapid growth of each of these occupations, one finds it difficult to conceive of a health specialist embodying all their skills and knowledge.

The physician of the future must be educated to function as an integral, but not necessarily controlling, member of a broadly based health team comprising not only participants from the traditional medical and paramedical disciplines, but also social scientists, city planners, and representatives of the community. To this end, the physician must come to medical school with a grounding in the special fields of the non-medical members of the team sufficient to make him conversant with the goals, problems, and methods of these disciplines and to enable his continuing education therein; but his primary training must continue to be concerned with the more traditional sciences and arts of prevention, diagnosis, and treatment of the immediate causes of illness. Not all disease may be attributed to the effects of environment; there will always be some dysfunction and malady requiring the attention of the clinician.

Thus far in this FORUM there has been relatively little discussion of relevance for *today* in medical education, an omission of particular concern to the somewhat myopic eye of this second year medical student! Relevance is not so much the issue as are the methods and emphases of current medical education. For example, the half-life of facts now taught in medical schools is variously estimated to lie somewhere between five and twelve years. If that is true, then much of what is taught to the medical freshman today will be outmoded and replaced before he has completed his residency. Moreover, only a very limited number of facts can be introduced effectively during the course of a formal medical education—this amidst an explosion of scientific knowledge and methods with which the conscientious physician must grapple. One solution to this problem is to recognize that the physician is not only a technician, but also a scientist and creative thinker, whose education (rather than training) should center on problem-solving, analysis of concepts, *i.e.*, active participation in a learning process which will continue throughout his career. To this, some readers will immediately rebut, "Yes, but one can't cope with the principles and ideas until he has developed a functional vocabulary." If one recognizes pre-clinical and much of clinical training as the development of a language, then one may accept the idea that in learning a language one first masters its grammar—a framework of concepts and principles. Although this clearly requires the simultaneous acquisition of a limited vocabulary, the most effective way to build a functional vocabulary is to actively use the language by associating words with observed objects and actions. The grammar provides a rational system into which one fits all subsequently learned words.

If efficient use is to be made of our limited educational facilities and teachers, there must be a fundamental change in an educational philosophy based on memorization of multitudinous facts which are to be dredged up miraculously several years later when their application becomes necessary. It may be superfluous to note that this argument does not impugn the relevance of the materials presented in most medical classes.

Our entire educational system—from kindergarten through graduate school—has often been criticized for stifling initiative and creativity and for failing to take advantage of whatever motivation students inherently possess. The latter criticism is particularly applicable to medical education, because a fundamental concept of the psychology of learning is overlooked.

A child begins to learn when something he observes arouses his natural curiosity, and he is motivated to ask questions or to seek answers more directly through experimentation. This process is often destroyed by a rigid educational system which demeans the satisfaction of acquiring knowledge, in favor of external goals such as grades. Similarly, the entering medical student is motivated to ask questions. If exposed to living patients from the start, the student is very likely to want to know what illness the patient has, what its cause is, what the microscopic appearance of the lesion is, what biochemical processes are involved, etc. A natural sequence of questioning leading to answers is begun.

The rigid program of two pre-clinical years preceding two clinical years reverses this order: an attempt is made to provide information ("answers") before the motivating questions have entered the student's mind! Fortunately, many schools are coming to this realization and are introducing both greater flexibility and integration of pre-clinical and clinical sciences into their curricula.

Finally, there remains the question of proper allocation of emphasis on various topics in medical education. Foremost among the problems is the insidious pressure on the medical student to either specialize or to become a researcher. This pressure is in total contradiction of the oft-voiced goal of the medical community to improve delivery of medical care. Research is essential, but not all the best minds should be shunted to this one aspect of medical care. Properly trained family practitioners are essential to the satisfactory development and maintenance of community health.

In the fervent production of a highly skilled corps of super-specialists, the medical school often neglects education in the humanities, particularly philosophy and ethics. The result is untenable: physicians able to routinely perform organ transplants, prolong the lives of physical beings no longer capable of living, disturb the ecological balance and factors of natural selection, but unable to cope with the gigantic social and psychological dilemmas these skills pose. Herein lies the greatest need for an immediate change of emphasis.

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IT WAS INTERESTING to compare the thought processes of the over-thirty-years-of-age physicians with those of the students, presumably under thirty. True to form, the former, although endorsing change, sought it in a more conservative manner. Stalcup's recommendations, on the other hand, bordered on being revolutionary.

To see this bi-polar thinking is the crux of our problem these days; *i.e.*, how can we bridge the gap between the two. I would not urge the immediate discarding of our present form of medical education—it might be bad, but, at least it is orderly. As much as change is needed, to do it overnight would lead to chaos. This, however, is not meant to be an invitation to keep talking about what has to be done and never doing it.

It appears to me that what is relevant is action—action which shows good faith and is meaningful. Thus, a number of institutions (I would like to see the University of California Medical Center in San Francisco as one of them) should immediately divert some of their research funds for disease to a research project which would lead to the opening of a second medical school on the campus to employ some of the newer concepts about the relevant medical education suggested by the authors.

Why not a three-year medical school to train Humanists or Family Physicians and let the four-year school remain, though progressively modified, to train the superspecialist, the theorist, the researcher, the academician. It is recognized that there would be a licensing problem to overcome with such a proposal. Licensing, in its present state, has not been very relevant in helping to meet the manpower needs of many communities, and, allowing for new careers.

People are different. There is no reason to force all students to be only social-issue-oriented any more than it has been wrong in the past to direct students to be, as Stalcup so morbidly puts it, "death specialists."

It would be difficult to offer such flexibility in one institution; thus, the recommendation for two institutions. The new school, as suggested, could be on a small experimental basis.

"Relevance for Today and Tomorrow in Medical Education" must recognize that students, like human beings, which they are, range from one end of the pole to the other, in all things. Perhaps the mistake, in the past, has been that we have lumped all medical students in the middle; therefore, education has not been relevant for many of them.

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IN MY INTERPRETATION, relevance in medical education means that which pertains to or is applicable to the learning process. Ultimately, this learning process should lead to a complete understanding of life and living.

Medical education must add to the old and current information the techniques for the prevention and cure of disease. Scientific facts alone cannot provide the complete, meaningful education, for to attain that goal the mind of the learner must possess qualities of curiosity, facility, flexibility, imagination, and an insight for creativity. With these germane qualities as a background for a continuing lifetime medical educational process, the learner will be provided with the tools for the development of new information and new techniques for the advancement of human welfare. The spectrum of life must be constantly studied so that basic scientific facts can be applied to the full life pattern.

I believe that the trend of relevance in medical education today is toward producing a physician who is public health minded and is oriented toward the prevention of disease through control of abnormal ecology and environment. Society has created the physician—the healer of the sick. In making medical education more relevant to the needs of society, the physician must work with the public health officials, sociologists, psychologists and economists, but he, the physician, will always remain, in large measure, a healer of the sick.